

horticulture, the annonaceous fruits will unquestionably come to have a high place in the horticulture of the continental and insular tropic regions of the United States.

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“PEANUTS!”

BY BYRON D. HALSTED

Peanuts have been grown in the experiment grounds for the past two seasons and a few plants have occupied space in the greenhouse, that we might get in closer touch with this peculiar crop.

The peanut while young does not appear to be fond of its job, as one may judge from the poise of its wings (cotyledons) and the unkempt conditions of its tail feathers (plumular leaves). But later on when it gets its second wind, it goes forward with a fair degree of speed and decorum barring a seeming absurdity in locating its fruit underground.

In the peanut the parts seem to have been assembled with much trepidation and one wonders what may be added (or taken away) before the end is reached. As an instance, the leaflets seem to be unfinished at their tips and furthermore it is here that a “burn” is quite sure to locate and give the foliage the suggestion of maturity and the advent of autumn long before its time. Again the leaf has an air of decapitation, ending, as it does, in a pair of flaunting leaflets, there usually being but two pairs when all are counted. Still further the stipules are so long, hairy and closely appressed that one wonders whether they are worn for looks or to hide an abashed stem.

In about thirty days after planting the flowers make their appearance and are like gold-foil spangles among the nondescript stipules. Some day some one may have something more to say concerning these auriferous blooms, but for the present attention must be drawn to the fruits that follow.

To start again the peanut as one gets it at the store or entrance to the park for either home or street or menagerial consumption

is really no nut at all, and therefore the botanist is at fault in not correcting a gross error in nomenclature. Why should not the urchin demand of the street roaster his five cents' worth of hypogaeal legumes and add to the accuracy of our mother tongue as employed in commercial intercourse? It is thus seen that the units, one to sometimes four or possibly five, are seeds inclosed within a hard covering, the carpel.



Fig. 1. Branches of the peanut plant "laid down" and from their axils have grown the peduncles that may develop fruits at their tips underground. Such branches, when left upright fail to be fruitful and the flower-stalks disappear.

Before we return to the blooming plant left standing in the field, but not to wait for our coming, we might consider briefly the pods of *Arachis hypogaea* in relation to those of some of its more nearly related plants. This brings up the subject of kinship so much in vogue in these days of genetics and eugenics. South America (or Africa) holds the honor of being the home of our savory boyhood delight, and therefore we can not go into our fields and forests and point with the finger of pride to the sisters or even first cousins of the subject in hand. Suffice it then that the vetches, peas and beans should be more than neighborly and time will tell whether any of the Leguminosae may admit the peanut by wedlock into the local and very extensive household. The interest that attaches to such an introduction may be the

more evident after our return to the growing plants and further observations upon their peculiar habits, the origin of which must be left as a long-enduring stimulus for a special study of heredity by our relatives in South America or Africa or both. There is nothing quite equal to being among the nearest relatives when studying lines of descent especially of peanut pods.

But to return, the field peanut plant is now producing blooms in the axils of the leaves and soon purplish blunt-pointed projections appear and quickly turning a sharp angle extend toward the earth. The end of this wooden-toothpick like structure scarcely reveals its meaning until the earth is reached, when it begins those changes that result in the fruit of the plant. Should the distance exceed a few inches the descending flower-stalks give up the quest and perish, but when the leafy flower-bearing stems are bent down and fastened to the earth, they will form usually two fruits at each node as shown in the accompanying figure so long as strength for it holds out.

The young fruit is quite pointed at its free end thus accommodating its entrance into the soil, and this shape is not fully out-grown. The size and form of the seeds are adjusted to those of the legume so that in a pod with two seeds for example, the basal one is easily distinguished by its being shorter, broader and of greater weight than the one at the tip. Practically the opposite results obtain with the seeds of soybeans that are being studied with peanuts, because the prevailing numbers of seeds to a pod are the same. It seems quite probable that the differing environment may reverse the whole sequence of viability of the seed and the vigor and variability of the plants therefrom. In other words, if the peanut could be induced to change its habit of thrusting its ovaries into the soil the legumes might be largest at the free end, and have its smallest and weakest seeds at the base. But if one was permitted to indulge in ifs, there would be no end of speculations with a name that is built upon such unusual lines as the peanut, for *Arachis* (meaning without a branch, when it has many of them) and *hypogaea* (that relates to the habit of subterranean seed production) are scarcely descriptive. When one picks his peanut fruits, he does it with a plow or may

employ an active pig, first putting a muzzle upon the "shovel" of the field assistant.

All are parts of a plan well laid,
Including "freakish" things we see;
Why then should mortal dare upbraid
An idiosyncrasy.

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THE NAIADALES OF THE FLORA OF THE LAKE GEORGE REGION

BY STEWART H. BURNHAM

Since July 1, 1891, when I collected my first pondweed, *Potamogeton natans*, some attention has been devoted to this interesting genus in the region covering the counties of Washington, Warren and Saratoga, New York. Potamogetons are specially well represented in the bays of Lake George, and in Furnace Creek, which flows into South Bay, near the head of Lake Champlain.

I well recollect a call on the late Dr. Geo. D. Hulst, August 28, 1899, when he was stopping on Assembly Point, Lake George; and how he spread out his fine collection of pondweeds. At the time I went through the herbarium at the Brooklyn Institute of Arts and Sciences, October 5 and 12, 1901, but a small portion of Dr. Hulst's specimens had been mounted and placed in the herbarium. A few months afterwards Mrs. Hulst loaned me a book in which an exact copy of the Lake George plant labels had been made, before turning over the collections to the Institute. This list contained records of several pondweeds; the specimens of which I have been unable to examine. Dr. Hulst began his collection of pondweeds in 1891; but during the latter years of his life, 1898-1899, preserved most of his specimens. These specimens are now preserved in the herbarium of the Brooklyn Botanic Garden.

The Dr. Chas. H. Hall's specimens are also preserved in the herbarium of the Brooklyn Botanic Garden. There is no doubt